TRAINING CATEGORY:

SUBMARINE SYSTEMS

ORIGINATING AGENCY:

NAVSEA

SECURITY CLASSIFICATION OF DEVICE:

Device 21H24 is Unclassified

PURPOSE OF DEVICE:

Provides training for Organizational "O" Level maintenance of the SEAWOLF Submarine Weapons Handling And Launching Systems electronics (WHALE).

INTENDED USE:

The WHALE trainer supports classroom pre-requisite, pipeline, advanced, and refresher training on SEAWOLF (SSN-21) class submarine Weapons Launch Console (WLC), Internal Auxiliary Launcher (IAL), and Weapons Handling System (WHS) electronics.

FUNCTIONAL DESCRIPTION:

Device 21H24 is installed at the Naval Submarine School Groton, CT. building 518, room 419. The IAL Launcher Control Display Panel (LCDP) and WLC portions of the trainer consists of modified tactical weapons handling and launcher system panels, and special purpose simulation programs. They are controlled from an Instructor/Operator Station (IOS) via an Input/Output Controller (IOC). Shipboard systems and hardware are stimulated to emulate normal shipboard operation and casualty indications.

The major components of the trainer IAL and WLC are the IOS, IOC, IAL LCDP, and WLC. The IAL/WLC IOS consists of a Gateway 2000 4DX2-66E computer, keyboard, mouse, and color monitor. The IOC cabinet contains the IAL and

WLC interface chassis and it provides digital to analog and analog to digital conversion that effects the interface between the trainer unique equipment and the IOS (Commercial Off-The-Shelf equipment). The IAL, LCDP and WLC are modified tactical equipment driven by the IOS via the IOC.

The WHS is a standalone sub-system with four personal computers (PCs) and four touch screen (TS) color monitors to provide PC based emulation of the WHCP. The WHS consists of an IOS (P5-120 Pentium PC w/20" TS monitors) for trainer control, a Simulation Equipment Interface station (G6-200 Pentium PC w/20" TS monitor) for simulation interface control, and Port and Starboard WHCP stations (P5-120 Pentium PCs w/17" TS monitors). Each station has a keyboard and mouse.

PHYSICAL INFORMATION:

The WHALE Trainer meets transportation requirements for existing NAVSUBSCOL building 518 passageways and doors and is transportable via commercial transportation. The trainer classroom requires 30,000 BTU/H of cooling environmental air conditioning and must operate at 55-85° Fahrenheit temperature and 55-85% relative humidity.

Classroom space for the trainer is 21' X 24' (504 square feet floor space). Sufficient space is provided to access the trainer for the conduct of training and maintenance.

EQUIPMENT REQUIRED (Not Supplied):

None.

POWER REQUIREMENTS:

120vac, 60 HZ, 4 Amps single phase per subsystem.

One 20 Amp circuit breaker per subsystem and the IOS is protected by a power conditioner/surge protector.

Emergency Power Off switch at the room exit door.

PUBLICATIONS FURNISHED:

Systems Interface Manual, Weapons Handling and Launch Electronics (WHALE) Trainer, Device 21H24 (U), NAWCTSD P-7103.(U) See NAWCTSD P-7103 (U) for supplemental documents.

Training System Utilization Card, Weapons Handling and Launch Electronics (WHALE) Trainer, Device 21H24(U) NAWCTSD P-7104.(U).

PERSONNEL:

Instructors will be submarine school graduates, instructor qualified, and paygrade E-5 or above. One instructor is required for the conduct of WHALE training.

The Contractor Operation and Maintenance of Simulators contractor will operate and maintain the WHALE trainer.

CONTRACT IDENTIFICATION:

Naval Air Warfare Center Training System Division, Orlando, Florida.